

THE FOOD PLANTS OR HOSTS OF SOME FIJIAN INSECTS.*

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The authors of this article have been investigating the sugar-cane pests of the Fiji Islands during the past few years, and in the course of their work they have obtained a considerable number of food plant records; host records have also been obtained for a number of parasitic, predaceous and blood-sucking insects. It is now thought advisable to publish these and to incorporate with them all available records made by other workers. While it is hoped that this list is complete to date it is possible that some records may occur in publications not in the possession of the authors; such records, if they do occur, must, however, be few in number. Credit for the various records is made by initials as follows:—

A.K. Albert Koebele	D.N. David North
F.M. Frederick Muir	W.F. Walter Froggatt
C.K. Charles Knowles	T.B. Thomas Brown
F.J. Frank Jepson	R.V. Robert Veitch
J.I. James Illingworth	W.G. William Greenwood

Most of the insects credited to the authors have been identified through the Imperial Bureau of Entomology, and the staff of the Sydney Botanic Gardens has also assisted by naming a number of the plants; the rest of the authors' insect and plant identifications have been made from their available literature.

While it is believed that the present list contains all available records to date, it is incomplete in that the feeding habits of only a very small proportion of Fijian insects are known at present; it is hoped, however, that further records will be published at a later date as information is obtained.

The food plants are recorded under their botanical names, but the following are the common names of a few of the more important plants mentioned in the list of records.

Avocado Pear	<i>Persea gratissima</i> Gaertn. (Laurineae).
Bamboo	<i>Schizostachyum glaucifolium</i> Munro (Gramineae).
Banana	<i>Musa sapientum</i> L. (Scitamineae).
Barley	<i>Hordeum vulgare</i> L. (Gramineae).
Castor Oil Plant	<i>Ricinus communis</i> L. (Euphorbiaceae).

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Cocoa	<i>Theobroma Cacao</i> L. (Sterculiaceae).
Cocoanut	<i>Cocos nucifera</i> L. (Palmae).
Coral Tree	<i>Erythrina indica</i> Lam. (Leguminosae).
Cotton (Sea Island)	<i>Gossypium barbadense</i> L. (Malvaceae).
Couch Grass	<i>Cynodon Dactylon</i> Pers. (Gramineae).
Cowpea	<i>Vigna Catiang</i> Walp. (Leguminosae).
Egg Plant	<i>Solanum Melongena</i> L. (Solanaceae).
Granadilla	<i>Passiflora quadrangularis</i> L. (Passifloreae).
Guava	<i>Psidium Guayava</i> L. (Myrtaceae).
Guinea Grass	<i>Panicum maximum</i> Jacq. (Gramineae).
Ivi Tree	<i>Inocarpus edulis</i> Forst. (Leguminosae).
Kavika	<i>Eugenia malaecensis</i> L. (Myrtaceae).
Lemon	<i>Citrus Medica</i> L. var. <i>limonum</i> (Rutaceae).
Lime	<i>Citrus Medica</i> L. var. <i>acida</i> (Rutaceae).
Maize	<i>Zea Mays</i> L. (Gramineae).
Mandarin	<i>Citrus Aurantium</i> L. var. <i>nobilis</i> (Rutaceae).
Mango	<i>Mangifera indica</i> L. (Anacardiaceae).
Mauritius Bean	<i>Mucuna aterrima</i> Holland (Leguminosae).
Oats	<i>Avena sativa</i> L. (Gramineae).
Orange (Sweet)	<i>Citrus Aurantium</i> L. (Rutaceae).
Pawpaw	<i>Carica Papaya</i> L. (Passiflorae).
Pineapple	<i>Ananas sativus</i> Schult. f. (Scitamineae).
Potato	<i>Solanum tuberosum</i> L. (Solanaceae).
Pumpkin	<i>Cucurbita Pepo</i> DC. (Cucurbitaceae).
Rain Tree	<i>Enterolobium Saman</i> Prain (Leguminosae).
Rattle Pod	<i>Crotalaria striata</i> DC. (Leguminosae).
Rice	<i>Oryza sativa</i> L. (Gramineae).
Rice Bean	<i>Phaseolus calcaratus</i> Roxb. (Leguminosae).
Royal Palm	<i>Oreodora regia</i> Humbt. (Palmae).
Sago Palm	<i>Sagus ritiensis</i> H. Wendl. (Palmae).
Sandalwood Tree	<i>Santalum yasi</i> Seem. (Santalaceae).
Sugar-Cane	<i>Saccharum officinarum</i> L. (Gramineae).
Sunflower	<i>Helianthus annuus</i> L. (Compositae).
Sweet Potato	<i>Ipomoea Batatas</i> Lam. (Convolvulaceae).
Thurston Grass	<i>Panicum distachyum</i> L. (Gramineae).
Tobacco	<i>Nicotiana Tabacum</i> L. (Solanaceae).
Tomato	<i>Lycopersicum esculentum</i> Mill. (Solanaceae).
Water Melon	<i>Citrullus vulgaris</i> Schrad. (Cucurbitaceae).
Yaqona	<i>Piper methysticum</i> Forst. (Piperaceae).

It is hoped that this list will be of assistance to any readers who may be unacquainted with botanical nomenclature.

A single asterisk (*) opposite an insect record indicates that that insect is of great economic importance, two asterisks (**) similarly placed classify the insect as being of some considerable importance, while three asterisks (***) indicate that, although the insect attacks economic plants, insects or animals, yet its presence in Fiji is of very little consequence; where no asterisk occurs it is understood that the insect in question has either not yet been recorded as attacking anything of importance in the economic life of the community or, if it has done so, the object of attack has been in a rotting or decayed condition. The economic status of each insect has been determined from Fijian records only and, if the insect in question happens to be widely distributed or cosmopolitan, has no reference to its status in other parts of the world.

LEPIDOPTERA.

Except where otherwise stated, the records for Lepidoptera refer to the feeding habits of the larvae.

Nymphalidae.

Danaida archippus F. Feeds on the leaves and stalks of *Asclepias curassavica* L. (Asclepiadeae). R.V.

* * * *Melanitis ledu* F. Eats the leaves of *Saccharum officinarum* L. (Gramineae). R.V.

Lycaenidae.

* * * *Zizera labradus* Godt. Feeds on the flowers of *Vigna Catiang* Walp. (Leguminosae). W.G.

Sphingidae.

Chromis erotus Cram. Feeds on the leaves of *Morinda citrifolia* L. (Rubiaceae). W.G.

Macroglossum hirundo Boisd. Also feeds on the leaves of *Morinda citrifolia* L. (Rubiaceae). W.G.

Zygaenidae.

* *Levuana iridescens* B-B. Destroys the leaves of the following:—*Areca catechu* L. (Palmae) F.J.; *Cocos nucifera* L. (Palmae) C.K.; *Oreodora regia* Humbt. (Palmae) F.J.; *Sagus vitiensis* H. Wendl. (Palmae) F.J.

Hypsidae.

Argyna astrea Drury. Eats the flowers and young pods of *Crotalaria striata* DC. (Leguminosae). R.V.

Deilemeru fuscata Wlk. Feeds on the leaves and shoots of *Emilia sonchifolia* DC. (Compositae). W.G.

Arctiidae.

Utetheisa pulchella L. Eats the green pods of *Crotalaria striata* DC. (Leguminosae). R.V.

Geometridae.

* * * *Thalassodes pilaria* Gn. Feeds on the leaves of *Rosa* sp. Garden variety (Rosaceae). R.V.; also eats the leaves of *Ricinus communis* L. (Euphorbiaceae). R.V.

Noctuidae.

* * * *Achaea janata* L. Destroys the leaves of *Rosa* sp. Garden variety (Rosaceae). R.V.

Amyna natalis Wlk. Feeds on the leaves of *Sida retusa* L. (Malvaceae). W.G.

* * * *Anticarsia irrorata* F. Feeds on the leaves of *Phaseolus calcaratus* Roxb. (Leguminosae). W.G.; also destroys the leaves of *Saccharum officinarum* L. (Gramineae). R.V.

* * * *Cirphis loreyi* Dup. Eats the leaves of *Saccharum officinarum* L. (Gramineae). R.V.; also feeds on the leaves of many other Gramineae. R.V. and W.G.

* * *C. unipuncta* Haw. Destroys the leaves of *Saccharum officinarum* L. (Gramineae). R.V.; also feeds on the leaves of other Gramineae. R.V. and W.G.

* * *Earias fabia* Stoll. Feeds on the flower buds of *Hibiscus rosa-sinensis* L. (Malvaceae). C.K.; also attacks the buds of *Gossypium barbadense* L. (Malvaceae). C.K.

- * * * *Othreis fullonica* L. The larva feeds on the leaves of *Erythrina indica* Lam. (Leguminosae). R.V. and the imago on the ripe fruit of *Musa sapientum* L. (Scitamineae). R.V. and also on the fruit of *Citrus Aurantium* L. (Rutaceae). F.J.
- * * * *Phytometra chalcites* Esp. Feeds on the leaves of *Phaseolus calcaratus* Roxb. (Leguminosae). R.V.
- * * * *Prodenia litura* F. Destroys the leaves of the following plants:—*Dallia* sp. Garden variety (Compositae) R.V.; *Helianthus annuus* L. (Compositae) R.V.; *Mucuna aterrima* Holland (Leguminosae) R.V.; *Nicotiana Tabacum* L. (Solanaceae) R.V.; *Passiflora quadrangularis* L. (Passifloreae) R.V.; also eats the flowers of *Begonia* sp. Garden variety. (Begoniaceae). F.J.
- * * * *Spodoptera mauritia* Boisd. Feeds on the leaves of *Panicum maximum* Jacq. (Gramineae). R.V.

Pyralidae.

- * * * *Harpagomeura complexa* Boisd. Eats the fruit stalk of *Cocos nucifera* L. (Palmae). C.K.
- Hyphantidium albicostale* Wlk. Feeds in the ripe fruits of *Barringtonia speciosa* Forst. (Lecythidaceae). R.V.
- * * * *Maruca testulalis* Hb. Feeds on the green pods of *Vigna Catiang* Walp. (Leguminosae). R.V.; also destroys the flowers of *Pueraria Thunbergiana* Benth. (Leguminosae). W.G. and the flowers and pods of *Sophora tomentosa* L. (Leguminosae). W.G.
- * * * *Nacoleia diemenulis* Gn. Feeds on the leaves of the following plants:—*Phaseolus calcaratus* Roxb. (Leguminosae) W.G.; *Pueraria Thunbergiana* Benth. (Leguminosae). W.G.
- * * * *N. octosema* Meyr. Feeds on the fruits of *Musa sapientum* L. (Scitamineae). F.J.
- Terastia meticulosalis* Gn. Feeds in the ripe pods of *Erythrina indica* Lam. (Leguminosae). R.V.

Tortricidae.

- * * * *Argyroploce illepida* Butl. Feeds in the fruits of *Inocarpus edulis* Forst. (Leguminosae). R.V.

Lyonetiidae.

- * * * *Decadarchis flavistriata* Wals. Feeds on the leaf sheaths, eyes and rind of *Saccharum officinarum* L. (Gramineae). R.V.
- * * * *D. heterogramma* Meyr. Feeds on the floral bracts of *Passiflora quadrangularis* L. (Passifloreae). R.V.
- * * * *Opogona regressa* Meyr. Also feeds on the floral bracts of *Passiflora quadrangularis* L. (Passifloreae). R.V.

Tineidae.

- * * * *Setomorpha rutella* Zell. Feeds on the seeds of *Phaseolus semierectus* L. (Leguminosae). R.V.
- * * * *Trachycentru calamias* Meyr. Feeds in the "cabbage" and in the base of the leaf stalk of *Cocos nucifera* L. (Palmae) F.J.; also bores in the stalk of *Saccharum officinarum* L. (Gramineae) F.J. and in the stem of *Musa sapientum* L. (Scitamineae). F.J.
- * * * *T. chlorogramma* Meyr. Tunnels in the stalk of *Saccharum officinarum* L. (Gramineae). R.V.

Gelechiidae.

- * * * *Brachyacma epiochra* Meyr. Feeds in the ripe pods of the following:—*Crotalaria strigata* DC. (Leguminosae) W.G.; *Vigna Catiang* Walp. (Leguminosae). W.G.

- * * *Phthorimaea operculella* Zell. Feeds on the leaves of *Nicotiana Tabacum* L. (Solanaceae). F.J.

Phyllorycteridae.

- * * * *Cyphosticha caerulea* Meyr. Feeds just under the epidermis of the leaves of the following plants:—*Phaseolus calcaratus* Roxb. (Leguminosae) W.G.; *P. semierectus* L. (Leguminosae) W.G.; *Vigna Catiang* Walp. (Leguminosae). R.V.

Lithocolletis aglaozona Meyr. Feeds just under the epidermis of the leaves of *Pueraria Thunbergiana* Benth. (Leguminosae). W.G.

Cosmopterygidae.

- * * * *Cosmopteryx dulcivora* Meyr. Tunnels in the midribs of the leaves of *Saccharum officinarum* L. (Gramineae). R.V.

Lavernidae.

- * * * *Pyroderces terminella* Wlk. Feeds in the ripe pods of *Vigna Catiang* Walp. (Leguminosae). R.V.

- * * * *Stagmatophora erebinthii* Meyr. Feeds in the ripe pods of *Vigna Catiang* Walp. (Leguminosae). W.G.

Heliodinidae.

Stathmopoda trichrysa Meyr. Feeds in the flower buds of *Barringtonia speciosa* Forst. (Lecythidaceae) W.G.; also feeds on the flowers of *Desmodium umbellatum* D.C. (Leguminosae). W.G.

COLEOPTERA.

The stage in which the insect does the damage is indicated in all the records for Coleoptera; this has been rendered necessary by the fact that in many cases the damage has been caused by both the imago and the larva, while in a few cases the imago alone has been responsible for the injury. The remaining records refer to larval attack only, and they constitute the majority of the records for Coleoptera; the list contains a number of instances of predaceous and parasitic habits.

Lucanidae.

Figulus foveicollis Boisd. The larvae feed in the dead timber of *Inocarpus edulis* Forst. (Leguminosae). R.V.

Aphodiidae.

Aphodius lividus Oliv. The larvae live in mule excrement. D.N.; also in human excrement. W.G.

Melolonthidae.

- * * *Rhopaea subnitida* Arrow. The larvae eat the roots and the bases of the shoots of *Saccharum officinarum* L. (Gramineae) R.V.; the imago feeds on the leaves of the following plants:—*Cocos nucifera* L. (Palmae) R.V.; *Psidium Guayana* L. (Myrtaceae). R.V.

- * *R. vestita* Arrow. The larvae eat the roots and the bases of the shoots of *Saccharum officinarum* L. (Gramineae) R.V. and the imago feeds on the leaves of the following plants:—*Cocos nucifera* L. (Palmae) R.V.; *Enterolobium Saman* Prain (Leguminosae) R.V.; *Psidium Guayana* L. (Myrtaceae) R.V.; *Saccharum officinarum* L. (Gramineae). R.V.

Rutelidae.

- * * *Adoretus versutus* Har. The larva eats the roots of *Saccharum officinarum* L. (Gramineae) R.V.; the imago eats the leaves of the following plants:—*Rosa* sp. Garden variety (Rosaceae) F.J.; *Saccharum officinarum* L. (Gramineae) R.V.; *Theobroma Cacao* L. (Sterculiaceae). C.K.

Cetoniidae.

- * * * *Protaetia fusca* Herbst. The imago eats the fruit of *Pussiflora quadrangularis* L. (Passifloreae). R.V.

Hydrophilidae.

- Cyclonotum subquadratum* Fairm. The imago feeds on the rotten stalks of *Saccharum officinarum* L. (Gramineae). R.V.

Histeridae.

- * * * *Plaesius javanus* Er. The larva and imago feed on the larva of *Cosmopolites sordidus* Germ. (Curenlionidae). F.J.

Nitidulidae.

- Carpophilus dimidiatus* F. The larva and imago feed on the rotten stalks of *Saccharum officinarum* L. (Gramineae). R.V.
- C. mutabilis* Fairm. The larva and imago feed on the rotten stalks of *Saccharum officinarum* L. (Gramineae). R.V.

Trogoxetidae.

- * * * *Lophocateres pusillus* Klug. The larvae feed in bran. R.V.
- * * * *Tenebroides mauritanicus* L. The imago feeds on *Calandra oryzae* L. (Curenlionidae) R.V. and the larva attacks the seeds of *Oryza sativa* L. (Gramineae). R.V.

Colydiidae.

- Neotrichus latiusculus* Fairm. The imago feeds on the rotten stalks of *Saccharum officinarum* L. (Gramineae). R.V.

Cucujidae.

- Cryptanorpha desjardinsi* Guér. The imago feeds on the rotten stalks of *Saccharum officinarum* L. (Gramineae). R.V.
- * * * *Laemoploeus pusillus* Schonh. The larva feeds in bran. R.V.
- * * * *Silvanus surinamensis* L. The larvae feed in dates. R.V.

Coccinellidae.

- * * *Anisoreus affinis* Croteh. The larva and imago feed on *Coccidae* generally. F.M. R.V. and W.G.
- * * *Coccinella 8-maculata* F. The larva and imago feed on *Aphidiidae* generally. R.V. and W.G.
- * * *C. transversalis* F. The larva and imago also attack *Aphidiidae* generally. R.V. and W.G.
- * * *Epilachna 28-punctata* F. The larva and imago eat the leaves of the following plants:—*Lycopersieum esculentum* Mill. (Solanaceae) C.K.; *Nicotiana Tabacum* L. (Solanaceae) F.J.; *Physalis minima* L. (Solanaceae) R.V.; *Solanum Melongena* L. (Solanaceae) C.K.; *S. nigrum* L. (Solanaceae) W.G.; *S. tuberosum* L. (Solanaceae). C.K.
- * * *Neda tricolor* F. var. *vitiensis* Croteh. The larva and imago eat *Cocceidae* and *Aphidiidae* generally. F.M. and R.V.
- * * * *Novius cardinalis* Muls. The larva and imago feed on *Icerya purchasi* Mask. (Coccidae). R.V.
- * * * *Verania strigula* Boisd. The larva and imago eat the nymphs of *Perkinsiella vitiensis* Kirk. (Asiracidae) in captivity. F.M.

Bostrychidae.

- * * * *Rhizopertha dominica* F. The larvae feed in bran. R.V.
- * * * *Xyloporus castanoptera* Fairm. The larvae tunnel in the trunk and branches of *Theobroma Cacao* L. (Sterculiaceae). C.K.
- * * * *Xylothrips religiosus* Boisd. The larvae tunnel in the trunk and branches of the following plants:—*Cassia nodosa* Buch.-Ham. (Leguminosae) C.K.; *Theobroma Cacao* L. (Sterculiaceae). C.K.

Ptinidae.

* * * *Anobium paniceum* L. The larva and imago injure books. F.J.; the larva also feeds in nutmegs. R.V.

* * *Lasioderma serricorne* F. The larva and imago destroy cigarettes. F.J.

Cleridae.

* * *Necrobia rufipes* de G. The larvae feed in copra. F.J.

Elateridae.

* * *Lacon stricticollis* Fairm. The larvae attack the roots and young shoots of *Saccharum officinarum* L. (Gramineae) R.V.; they also feed on the white grubs of *Rhopaea vestita* Arrow. (Melolonthidae). R.V.

* * *Monocrepidius pallipes* Eseh. The larvae feed on the white grubs of *Rhopaea vestita* Arrow. (Melolonthidae). R.V.

* *Simodactylus cinnamomeus* Boisd. The larvae attack the roots and young shoots of *Saccharum officinarum* L. (Gramineae) R.V.; they also feed on the white grubs of *Rhopaea vestita* Arrow. (Melolonthidae). R.V.

Tenebrionidae.

Alphitobius diaperinus Panz. The larvae feed on the rotten seeds of *Vigna Catiang* Walp. (Leguminosae). R.V.

A. piceus Ol. The larvae live in the rotten seeds of *Zea Mays* (Gramineae). R.V.

Amarygmus hydrophiloides Fairm. The larvae live in rotten timber. R.V.

A. tuberculiger Fairm. The larvae also live in rotten timber. R.V.

Bradymerus amicorum Blanch. The larvae feed in rotten timber. R.V.

* * * *Gnathocerus cornutus* F. The larvae feed in the meal of *Avena sativa* L. (Gramineae). R.V.

* * *Tribolium confusum* Jacqu-Duv. The larvae live in the seeds of *Zea Mays* L. (Gramineae). R.V.

Bruchidae.

* *Bruchus chinensis* L. The larvae have been found feeding in the seeds of the following plants:—*Phaseolus adenanthus* G. Meyer (Leguminosae) R.V.; *P. calcaratus* Roxb. (Leguminosae) R.V.; *P. semierectus* L. (Leguminosae) R.V.; *Vigna Catiang* Walp. (Leguminosae). R.V.

Pachymerus gonager F. The larvae feed in the pods of *Acacia farnesiana* L. (Leguminosae). R.V.

Galerucidae.

* * *Aulacophora argyrogaster* Mont. The imago eats the leaves and flowers of the following plants:—*Citrullus vulgaris* Schrad. (Cucurbitaceae) C.K.; *Cucurbita Pepo* DC. (Cucurbitaceae). C.K.

* * *A. quadrimaculata* F. The imago eats the leaves of the following plants:—*Citrullus vulgaris* Schrad. (Cucurbitaceae) R.V.; *Cucurbita Pepo* DC. (Cucurbitaceae). R.V.

Halticidae.

Haltica gravida Blekb. The larva and imago eat the leaves of *Jussiaea suffruticosa* L. (Onagraceae). R.V.

Hispididae.

* * *Promecotheca reichei* Baly. The larva injures the leaves of *Cocos nucifera* L. (Palmae). C.K.

Anthribidae.

* * *Araecerus fasciculatus* de G. The larvae have been found feeding in the following:—*Citrus Aurantium* L. (Rutaceae) F.J.; Dates R.V.; Dried Ginger F.J.; Nutmegs R.V.

Curculionidae.

- Aciememis biconifer* Fairm. The larvae feed in the decaying wood of *Jatropha Curcas* L. (Euphorbiaceae). R.V.
- * * *Calandra granaria* L. The larvae feed in the seeds of *Zea Mays* L. (Gramineae). C.K.
- * *C. oryzae* L. The larvae feed in the seeds of the following plants:—*Avena sativa* L. (Gramineae) R.V.; *Hordeum vulgare* L. (Gramineae) R.V.; *Oryza sativa* L. (Gramineae) F.J.; *Zea Mays* L. (Gramineae). F.J.
- * * * *C. taitensis* Guér. The larvae feed in the leaf stalk of *Cocos nucifera* L. (Palmae). F.J.
- * *Cosmopolites sordidus* Germ. The larvae tunnel in the roots of *Musa sapientum* L. (Scitamineae). C.K.
- * * *Cylas formicarius* F. The larvae tunnel in the tuberous roots of *Ipomoea Batatas* Lam. (Convolvulaceae). R.V.
- * * *Eusepes batatae* Waterh. The larvae also attack the roots of *Ipomoea Batatas* Lam. (Convolvulaceae). R.V.
- * *Rhabdocnemis obscura* Boisd. The larvae tunnel in the stalks of *Saccharum officinarum* L. (Gramineae). A.K.; the larvae also attack *Musa sapientum* L. (Scitamineae). A.K.
- * * * *Trochorrhopalus strangulatus* Gyl. The larvae tunnel in sickly and rotten stalks of *Saccharum officinarum* L. (Gramineae). J.I.

Scolytidae.

- * * * *Coccotrypes duetyliperda* F. The larvae feed in dates. R.V.

Stylopididae.

- * * *Elenchooides perkinsi* Pierce. All stages of the female of this insect are parasitic on the nymph and imago of *Perkinsiella ritiensis* Kirk. (Asiracidae); all stages of the male except the imaginal are also parasitic upon *P. ritiensis* Kirk. A.K. It also similarly attacks the nymph and imago of *Nephotettix plebeius* Kirk. (Tetigoniidae). W.G.

HYMENOPTERA.

Except where otherwise stated, the records for Hymenoptera refer to the feeding habits of the larvae.

Eulophidae.

- * *Ootetrastichus beatus* Perk. Parasitic on the eggs of *Perkinsiella ritiensis* Kirk. (Asiracidae). A.K.

Encyrtidae.

- * * *Ooencyrtus pacificus* Waterst. Parasitises the eggs of *Brachyplatys pacificus* Dal. (Pentatomidae). R.V.

Braconidae.

- * * * *Apanteles expulsus* Turn. Parasitic on the larvae of *Anticarsia irrorata* F. (Noctuidae). R.V.

Eumenidae.

- * * * *Rhynchium rufipes* F. The imago stores the larvae of *Murua testulalis* Hb. (Pyralidae) in its larval mud cells. W.G.

Vespidae.

- * *Polistes hebraeus* F. The larva and imago feed on insects generally. J.I. and R.V.

Scoliidae.

- * * *Discolia ovalauensis* Sauss. The larvae are parasitic on the white grubs of *Rhopaea vestita* Arrow. (Melolonthidae). R.V.

Formicidae.

- * *Pheidole megacephala* F. This is a general predator on all stages of other insects. Various observers.

HEMIPTERA.

In practically all the Hemiptera the records refer to the feeding habits of nymph and imago; the *Coccidae* are an exception because of the fact that the mouth-parts of the male imago are aborted and incapable of absorbing plant juices.

Pentatomidae.

- * * *Brachyplatys pacificus* Dall. Feeds on the leaves, stalks and pods of *Mucuna aterrima* Holland. (Leguminosae). R.V.
- * * * *Canthecona cyanocantha* Stal. Attacks the larvae of *Levuana iridescens* B-B. (Zygaenidae). F.J.
- Coleotichus sordidus* Wik. Feeds on the leaves and flower buds of *Hibiscus tiliaceus* L. (Malvaceae). R.V.
- * * * *Lamprophara bifasciata* White. Attacks the larvae of *Levuana iridescens* B-B. (Zygaenidae). R.V.
- * * * *Piezodorus rubrofasciatus* F. Feeds on the leaves and fruits of *Passiflora quadrangularis* L. (Passifloraceae). W.G.
- * * * *Tectocoris lineola* F. Attacks the larvae of *Levuana iridescens* B-B. (Zygaenidae). R.V.

Coreidae.

- * * * *Brachytylus variegatus* Le Guill. Feeds on the leaves of *Carica Papaya* L. (Passifloraceae). R.V.
- * * * *Leptocoris acuta* Stal. Feeds on the leaves and inflorescences of Gramineae generally. R.V. and W.G.
- * * * *Leptoglossus australis* F. Attacks the leaves, stalks and pods of the following plants:—*Cassia occidentalis* L. (Leguminosae) R.V.; *Vigna Catiang* Walp. (Leguminosae). W.G.
- Melanacanthus marginoguttatus* Dist. Feeds on the leaves, stalks and pods of *Cassia occidentalis* L. (Leguminosae). R.V.
- Mictis profana* F. Attacks the leaves, stalks and pods of the following plants:—*Cassia occidentalis* L. (Leguminosae) R.V.; *Desmodium umbellatum* DC. (Leguminosae). W.G.
- Riptortus abdominulis* Westw. Feeds on the leaves, stalks and pods of *Cassia occidentalis* L. (Leguminosae). R.V.

Lygaeidae.

- * * * *Graptostethus servus* F. var. Attacks the leaves of *Zea Mays* L. (Gramineae). R.V.
- Paromius pallidus* Montr. Feeds on the inflorescence of *Amphilophis glabra* Stapf. (Gramineae). W.G.

Pyrrhocoridae.

- * * * *Dysdercus impicticentris* Stal. Attacks the bolls, leaves and young shoots of *Gossypium barbadense* L. (Malvaceae). R.V.
- * * * *D. insularis* Stal. Attacks *Gossypium barbadense* L. (Malvaceae) in a similar manner. F.J.

Cimicidae.

- * * *Clinocoris hemiptera* F. Attacks human beings. F.J.

Capsidae.

- Gallobellicus crassicornis* Dist. Feeds on the leaves of *Polanisia viscosa* DC. (Capparidae). W.G.

Tetigoniidae.

- * * * *Nephotettix plebeius* Kirk. Feeds on the leaves of *Panicum distachyum* L. (Gramineae). W.G.
- Nesosteles sanguinescens* Kirk. Feeds on the inflorescence of *Amphilophis glabra* Stapf. (Gramineae). W.G.

Asiracidae.

- * * *Peregrinus maidis* Ashm. Attacks the leaves and stalks of *Zea Mays* L. (Gramineae). R.V.
 * * *Perkinsiella vitiensis* Kirk. Feeds on the leaves and stalks of *Saccharum officinarum* L. (Gramineae). A.K.

Derbidae.

- * * * *Pyrrhoneura saccharicida* Kirk. Attacks the leaves and stalks of *Saccharum officinarum* L. (Gramineae). F.M.

Aleurodidae.

- * * * *Aleurodes bergii* Sign. Feeds on the leaves of *Saccharum officinarum* L. (Gramineae). A.K.
 * * * *A. comata* Mask. Attacks the leaves of the following plants:—*Cynodon dactylon* Pers. (Gramineae) W.G.; *Panicum distachyum* L. (Gramineae) R.V.; *Saccharum officinarum* L. (Gramineae). F.M.
A. calophylli Kot. Attacks *Calophyllum Inophyllum* L. (Guttiferaceae) †
 * * * *A. sacchari* Mask. Feeds on the leaves of *Saccharum officinarum* L. (Gramineae) †
 * * * *Aleurodicus holmesii* Mask. Attacks *Psidium Guayava* L. (Myrtaceae) †

Coccidae.

- * * * *Aspidiotus cyanophylli* Sign. Attacks the following plants:—*Musa sapientum* L. (Seitamineae) F.J.; *Psidium Guayava* L. (Myrtaceae). F.J.
 * *A. destructor* Sign. var. *transparentis* Green. Attacks the following plants: *Carica Papaya* L. (Passifloreae) F.J.; *Cocos nucifera* L. (Palmae) F.J.; *Musa sapientum* L. (Seitamineae) F.J.; *Passiflora quadrangularis* L. (Passifloreae) F.J.; *Persea gratissima* Gaertn. (Laurineae) F.J.; *Piper methysticum* Forst. (Piperaceae). F.J.
 * * * *A. excisus* Green. Feeds on *Musa sapientum* L. (Seitamineae). F.J.
 * * * *A. lataniae* Sign. Attacks *Musa sapientum* L. (Seitamineae). F.J.
 * * * *A. palmarum* C'kll. Also attacks *Musa sapientum* L. (Seitamineae). F.J.
Asterolecanium miliaris-longum Green. Feeds on *Schizostachyum glaucifolium* Munro (Gramineae). F.J.
 * * *Chionaspis citri* Comst. Attacks the following:—*Citrus Aurantium* L. (Rutaceae) F.J.; *C. Aurantium* L. var. *nobilis* (Rutaceae) F.J.; *C. Medica* L. var. *acida* (Rutaceae) F.J.; *C. Medica* L. var. *limonum* (Rutaceae). F.J.
 * * *Chrysomphalus (Aspidiotus) aurantii* Mask. Attacks the following plants:—*Citrus Aurantium* L. (Rutaceae) F.J.; *C. Medica* L. var. *limonum* (Rutaceae) F.J.; *Musa sapientum* L. (Seitamineae). F.J.
 * * * *C. dictyospermi* Morgan. Feeds on *Musa sapientum* L. (Seitamineae). F.J.
Diaspis (Aulacaspis) pentagona Targ. Attacks *Hibiscus esculentus* L. (Malvaceae). F.J.
 * * *Diaspis bromeliae* Kerner. Feeds on *Ananas sativus* Schult. f. (Seitamineae). F.J.
 * * * *D. rosae* Sandberg. Attacks *Rosa* sp. Garden variety. (Rosaceae). F.J.
 * * * *Hemichionaspis aspidistrac* Sign. Feeds on *Musa sapientum* L. (Seitamineae). F.J.

†These records have been obtained from Bulletin No. 2 issued by the Board of Commissioners of Agriculture and Forestry of the Territory of Hawaii; that bulletin does not indicate to whom credit should be given for these food plant records. It has, however, been thought desirable to include them in the present list, even although the recorder's names cannot be given.

- * * * *H. minor* Mask. Attacks *Musa sapientum* L. (Scitamineae). F.J.
 * * * *Icerya purchasi* Mask. Feeds on the following plants:—*Citrus Aurantium*
 L. (Rutaceae) R.V.; *C. Medica* L. var. *limonum* (Rutaceae) R.V.;
Psidium Guayana L. (Myrtaceae). R.V.
 * * * *Pseudococcus bromeliae* Bouché. Attacks *Saccharum officinarum* L.
 (Gramineae). R.V.
 * * * *P. pandani* Ckll. Feeds on *Cocos nucifera* L. (Palmae). F.J.

ANOPLURA.

The Anoplura feed on the blood of mammals.

Pediculidae.

- * * * *Pediculus capitis* De Geer. On human beings. F.J.
 * * * *P. humanus* L. On human beings. F.J.
 * * * *Phthirus inguinalis* Leach. On human beings. F.J.

Haematopinidae.

- * * * *Haematopinus eurytERNUS* Nitzsch. On cattle. F.J.
 * * * *H. suis* L. var. *adventitius* Neumann. On pigs. F.J.
 * * * *H. urius* Nitzsch. On pigs. F.J.

ORTHOPTERA.

All the records for Orthoptera refer to the feeding habits of both nymph and imago.

Gryllidae.

- * * * *Gryllus oceanicus* Le Guill. Feeds on the young shoots and eyes of
Saccharum officinarum L. (Gramineae). R.V.

Acridiidae.

- * * * *Cyrtacanthacris guttulosa* Wlk. Eats the leaves of *Saccharum officinarum*
 L. (Gramineae). R.V.
 * * * *Locusta danica* L. Attacks the leaves of *Saccharum officinarum* L.
 (Gramineae). R.V.

Phasmidae.

- * * * *Graeffea cocophaga* Newp. Attacks the leaves of *Cocos nucifera* L.
 (Palmae) †
 * * * *Hermarchus pythoni* Westw. Feeds on the leaves of *Cocos nucifera* L.
 (Palmae) †

THYSANURA.

Lepismidae.

- * * * *Lepisma saccharina* L. Both the nymph and imago infest books, photographs, cardboard boxes and other articles containing the starchy matter on which they feed. F.J.

NEUROPTERA.

Chrysopidae.

- * * * *Chrysopa sanvitoresi* Nav. The larvae feed very voraciously on *Coccidae* generally. R.V.

MALLOPHAGA.

The Mallophaga feed on the more delicate portions of the hairs and feathers of their hosts and also upon epidermal cells.

Goniodidae.

- * * * *Goniodes dissimilis* Nitzsch. On fowls. F.J.

† Original observer's name is unknown to the authors.

Menoponidae.

* * * *Menopon trigonocephalum* Olfers. On fowls. F.J.

Trichodectidae.

* * * *Trichodectes climax* Nitzsch. On goats. F.J.

Lipeuridae.

* * * *Lipeurus heterographus* Nitzsch. On fowls. F.J.

DIPTERA.

The records for *Culicidae* and *Tabanidae* refer to the blood sucking habits of the female imago only; the records for *Trypetidae*, *Drosophilidae* and *Tachinidae* indicate the feeding habits of the larva.

Culicidae.

* <i>Culex fatigans</i> Wied.	Attacks human beings.	F.J.
* * <i>C. jepsomi</i> Theo.	" " "	F.J.
* * <i>C. nocturnus</i> Theo.	" " "	F.J.
* * <i>Finlaya poicilia</i> Theo.	" " "	F.J.
* <i>Stegomyia fasciata</i> F.	" " "	F.J.
* <i>S. pseudoscutellaris</i> Theo.	" " "	F.J.
* * <i>Taeniorhynchus brevicellulus</i> Theo.	" " "	F.J.

Tabanidae.

* * * *Tabanus fijianus* Ric. Attacks human beings. W.G.

Trypetidae.

Dacus curvipennis Frogg.† Attacks the fruit of *Musa sapientum* L. (Scitamineae). W.F.

* * *D. passiflorae* Frogg. Lives in the fruits of the following plants:—*Citrus Aurantium* L. (Rutaceae) F.J.; *C. Aurantium* L. var. *nobilis* (Rutaceae) F.J.; *Eugenia malaccensis* L. (Myrtaceae) W.G.; *Mangifera indica* L. (Anacardiaceae) F.J.; *Passiflora quadrangularis* L. (Passifloraceae) F.J.; *Pometia pinnata* Forst. (Sapindaceae) F.J.; *Psidium Guayana* L. (Myrtaceae). F.J.

This species has also been bred from the seeds of *Santalum yasi* Seem. (Santalaceae). F.J.

D. psidii Frogg.† Attacks the fruits of *Passiflora quadrangularis* L. (Passifloraceae). W.F.

D. xanthodes Broun.† Attacks the fruits of the following plants:—*Ananas sativus* Schult. f. (Scitamineae) T.B.; *Carica Papaya* L. (Passifloraceae) T.B.; *Passiflora quadrangularis* L. (Passifloraceae) T.B.; *Psidium Guayana* L. (Myrtaceae). T.B.

Drosophilidae.

* * * *Drosophila ampelophila* Lw. Feeds on the skin of the fruit of *Musa sapientum* L. (Scitamineae). F.J.

†None of these species have been bred in Fiji, and the records have all been obtained from fruit landed in Australia and New Zealand; the records for *D. xanthodes* Broun have been taken from Froggatt's "Report on Parasitic and Injurious Insects" on p. 91 of which he states "This name was given to a species, bred by Captain Broun in New Zealand, from larvae obtained infesting pine-apples, granadillas, guavas, and mammee apples brought from Suva and Raratonga, Fiji." It is not clear from this note whether all four food plant records were obtained from Fijian fruit or whether some were obtained from Raratongan fruit and some from Fijian fruit.

Tachinidae.

- * *Ceromasia sphenophori* Vill. Parasitic on the larvae of *Rhabdoencmis obscura* Boisd. (Cureulionidae). F.M.
- * * *Sturmia bimaculata* Htg. Parasitic on the larvae of the following:—
Chromis erotus Cram. (Sphingidae) W.G.; *Cirphis loreyi* Dup. (Noctuidae) R.V.; *C. unipuncta* Haw. (Noctuidae) R.V.; *Prodenia litura* F. (Noctuidae). R.V.

Muscidae.

- * *Musca domestica* L. The larvae feed in excrement. F.J.
- * * * *Stomoxys calcitrans* L. The imago sucks the blood of horses. F.J.; it also attacks human beings. R.V.

SIPHONAPTERA.

The Siphonaptera are blood sucking.

Pulicidae.

- * * *Ctenocephalus felis* Bouché. On dogs, cats and mongoose. F.J.
- * * *Echidnophaga gallinacea* Westw. Attacks domestic fowl. †
- * * *Xenopsylla cheopis* Roths. Attacks rats. F.J.

† Observer's name unknown to the authors.